

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Allan A. Fanucci on 05/26/2010.

The application has been amended as follows:

109. (Currently Amended) A method for monitoring synthesis of one or more proteins which comprises:

- binding a first label to at least one ribosome or a fragment thereof to form a donor fluorophore;
- binding a second label to at least one tRNA to form an acceptor fluorophore;
- detecting electromagnetic radiation signals emitted when the first and second labels are in proximity, wherein the signals are obtained from the donor and acceptor fluorophores forming a fluorescence resonance energy transfer (FRET) pair, with the signals indicating progression of the synthesis of the one or more proteins; and
- analyzing the detected signals to ~~identify~~ characterize one or more proteins being synthesized by computing a synthesis signal from the FRET pairs by:
 - recording beginning and end points for each FRET signal time period;
 - and-
 - computing ~~probabilities of labeled sequences based on the type of signals recorded and the time differences of the recorded beginning and end points of each FRET signal time period;~~
 - determining the number of most probable protein synthesis cycles occurring between pairs of FRET signal time periods;

determining most probable candidate sequences expressed as sequences of "N" and "F", wherein "N" and "F" are respectively "on" and "off" FRET signals; and

interrogating a database compiled from protein sequences data to identify the one or more proteins that most likely have produced the detected signals transformed to a label sequence by marking each amino acid as "N" or "F" according to whether its synthesis will result in a FRET signal or not.

Claim 114: insert -- further -- before "comprising".

Cancel claim 115.

Reasons for allowance

The following is an examiner's statement of reasons for allowance: Claims 109-114, 116-124 are novel and unobvious over the prior art of record or any combination thereof. The prior art of record does not teach or suggest analyzing FRET signals characterize proteins being synthesized by computing a synthesis signal from the FRET pairs as now by recording beginning and end points for each FRET signal time period, determining the number of most probable protein synthesis cycles occurring between pairs of FRET signal time periods, determining most probable candidate sequences expressed as sequences of "N" and "F", and interrogating a database compiled from protein sequences transformed to a label sequence by marking each amino acid as "N" or "F" according to whether its synthesis will result in a FRET signal or not.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Borin whose telephone number is (571) 272-0713. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie Moran can be reached on (571) 272-0720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Borin/
Primary Examiner, Art Unit 1631